Terpenoid Tertiary Alcohols - Comments of Environmental Defense

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Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for Terpenoid Tertiary Alcohols. The Flavor and Fragrance High Production Consortium have proposed that 13 terpenoid tertiary alcohols and related esters be considered as a category, and assert that no further testing is needed since results for untested endpoints can be extrapolated across the class. The basis for the category proposal is that all members have similar physiochemical properties and similar metabolic detoxification and toxicological properties.

In our view, the scientific foundation for a category designation is inadequate. With regard to the human health data, developmental toxicity data is available for only one of 13 members of the proposed category, for reproductive toxicity for two members; and repeat dose for three members. It is not possible to predict toxicities of untested members from such limited data. Acute data is available on 10 members of the proposed category and we agree that acute toxicity testing on the other 3 members is not needed.

In regards to common metabolic pathways, the available information indicates only that oxidative, reductive and glucuronidation pathways are operative for all proposed members. These pathways are common among a wide variety of biological compounds and environmental chemicals having vastly different toxicological properties. For example, these pathways are the main metabolic routes for PCBs, steroid hormones, and polycyclic aromatic hydrocarbons.

In summary, we do not support the proposal for a category designation of the terpenoid tertiary alcohols at this time. We recommend that repeat dose, reproductive and developmental studies be done on a few additional members, and, if the data support it, to then propose a category designation. Alternatively, the sponsors could conduct microarray studies in cells and/or samples from treated animals to determine if each of the members exert the same effects on patterns of gene expression. If so, this would provide good support for a category designation.

Thank you for this opportunity to comment.

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